**STATEMENT BY**

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**INTRODUCTION:**

Mr. Chairman and members of the Committee, I am Major General Carl Strock, Director of Civil Works for the U.S. Army Corps of Engineers and I am honored to appear before you today to testify on the work of the United States, in concert with our Coalition and Iraqi partners, to repair and rebuild Iraq. I returned last September from six months in Kuwait and Iraq where I served with the Office of Reconstruction and Humanitarian Assistance (ORHA) and the Coalition Provisional Authority (CPA). I held a number of positions culminating with service as the Deputy Director for Operations and Infrastructure for the CPA.

**PLANNING PRIOR TO THE WAR**

As is usual in military operations, planning for reconstruction was conducted simultaneously with planning for war. These plans included extensive use of contractors to supplement military and governmental capacity. Our original expectations were that we would have to repair the damage caused by military action, deal with the humanitarian crisis we were expecting to encounter, and set the stage for the new Iraqi government to oversee reconstruction. In fact, we worked closely with all elements of the Joint and Combined Command in assessing potential effects of US and Coalition munitions on critical Iraqi infrastructure.

ORHA was an interagency and international organization consisting of three "pillars": Reconstruction, led by the US Agency for International Development (USAID); Civil Administration, led by the Department of Defense (DoD); and Humanitarian Assistance, led by the Department of State (DoS). With the expectation of large numbers of displaced people, shortages of food, water, and shelter, and the potential for widespread disease, humanitarian assistance was the priority effort. Reconstruction was focused on returning the country's infrastructure to pre-war conditions and assistance in governance. s early effort approximately $1.5 Billion was allocated to reconstruction, the majority set

aside for construction contracts. Civil Administration was focused on assisting the 23 Iraqi ministries in reestablishing control in their respective sectors. We anticipated that the senior leadership would be absent but the ministries and their staffs would largely be intact and capable of running operations with the assistance of a small cadre of coalition advisors – in some case as few as one or two people per ministry.

Knowing that much of this infrastructure would be critical to the future of a free Iraq, the war planners, employing precision munitions, deliberately attempted to minimize damage wherever possible. An even greater concern going into the war was that Saddam Hussein's regime would repeat their actions of the Gulf War, where they set ablaze and crippled a large portion of the Kuwaiti oil infrastructure. Understanding that the flow of oil was the essential lifeblood of the future, free Iraqi economy, the Acting Secretary of the Army designated the US Army Corps of Engineers as the executive agent for Iraq Oil Infrastructure Reconstruction, and we formed Task Force Restore Iraqi Oil (RIO) under the superb leadership of Brigadier General Robert Crear to exert command and control over this important mission.

**WHAT WE ENCOUNTERED**

When we entered Iraq, we encountered relatively little war damage, but instead an infrastructure crippled by a combination of long-term neglect, recent looting, and sabotage. The country's infrastructure, while experiencing some damage from the war, was sagging under the weight of 30 years of neglect, misrule, and mismanagement. There was no electricity, very limited public water supply, no sewage treatment, no communication system except what we brought with us, no railroads in operation and limited other modes of transportation, and basically very little means for the new Iraqi government to do its work. Water was not being controlled at the reservoirs on the Tigris, Euphrates and other rivers, so irrigation systems were disrupted and there was major risk of flooding. Virtually all public buildings and their contents – records, equipment, supplies – were destroyed by looters and saboteurs, making it almost impossible to reestablish government and provide basic services. Furthermore, the

experts on the country's infrastructure were Ba'ath Party members who had fled or had been removed. Under the Hussein regime public servants did only what they were told by their supervisors, so there was no tradition of individual initiative. Our relatively small cadre of advisors faced considerable challenges dealing with this catastrophic situation.

I want to stress that we found very little actual war damage. This was in large measure due to precision targeting and effects-based weapons employment. The Iraqi transportation and utility systems, although in near complete disarray, were little damaged by war. The one sector of Iraq's infrastructure that did suffer unavoidable harm during the war was the communications network. The Coalition had necessarily targeted key communications nodes to prevent Saddam Hussein from effectively commanding and controlling his forces. This caused communications difficulties that we struggled to overcome early in our reconstruction efforts.

Moreover, the humanitarian crisis – the threat of mass starvation and disease – that we feared might occur during the war's aftermath did not come to pass, although we quickly had to rebuild the water supply in many locations to help minimize these threats. Creating even greater difficulties for reconstruction, many of the local Iraqis with expertise necessary to restore and operate critical infrastructure were either unavailable or fearful of working with the Coalition.

During this period early in the reconstruction, the effects of widespread sabotage and looting were constantly undermining our efforts. Because we had anticipated and planned for operations in just such a difficult and dangerous environment, one of our immediate and major efforts in the early days was to secure critical facilities. The damage resulting from the actions of saboteurs and looters, however, still turned out to be significant. As an example, it is estimated that fewer than 50 high voltage electricity transmission towers were toppled or significantly damaged as result of the war. At the peak of sabotage and looting, this number grew to more than 700 as criminal elements scavenged copper from the high voltage wires.

The greatest problem we faced, however, was dealing with an infrastructure that had been neglected and mismanaged for 30 years as the Saddam Hussein regime used such basic utilities as water and electric supplies to reward his friends and punish his enemies. The country suffered from a lack of capital investment as Saddam chose to purchase weapons and build palaces instead of power plants and water treatment facilities. International sanctions also contributed to the lack of maintenance. It is a tribute to Iraqi engineers that the country's systems were able to function at all, and that we were able to assist in restoring them as quickly as we did.

It should be noted that those of us who were part of the ORHA team initially suffered many of the same hardships as the Iraqi people. Like them, we did not have basic services such as reliable food, water, power, and sewage; nor did we have an adequate work area. Also like them, we were greatly hampered by the lack of reliable communications in the area. In fact, we often had no communications at all.

**WHAT WE DID**

In rebuilding Iraq's infrastructure, we faced an enormous and monumental task. A country similar in size and population to California's, Iraq was not going to be successfully rebuilt without a significant effort. In order to do this, we assembled a team consisting of representatives from the following agencies: United States Agency for International Development (USAID); Department of State; Department of Transportation; Department of Health and Human Services; Department of Agriculture; Department of Commerce; the Corps of Engineers; United Nations agencies such as UNICEF, UNESCO and UNDP; Iraqi Ministries; non-government organizations such as the International Committee of the Red Cross and CARE; and the private sector. We also knew going in—and this was part of our planning—that Iraq's successful reconstruction would require considerable contractor involvement.

My initial involvement was as a member of the ORHA. I arrived soon after Baghdad had been secured, and was part of the group tasked with the initial responsibility for reconstruction. As we began to establish operations, the LOGCAP contractor was essential in providing basic services such as food, water, power and electricity. The LOGCAP contractor also provided transportation and security services for ORHA. The contractor provided these services to ORHA just as it did to military units across the country.

The military units on the ground accomplished the very earliest reconstruction, restoration, and relief efforts. They were restoring electricity, water, sewage and other basic services all across the country. They helped rebuild schools and often provided employment opportunities to many Iraqi citizens. Throughout Iraq, these military units were the coalition presence, setting up local governments and reestablishing safety and security in their areas. From the earliest days, as we worked to get the infrastructure of Iraq back on its feet, it was often a coalition military unit working directly with the local Iraqi citizens doing the work.

Within the ORHA, we provided advisors to many of the Iraqi ministries. We assumed these advisors would deal with "decapitated" ministries--ministries where the Ba'ath leadership was absent but with facilities and workforce largely intact. What we found, though, were ministries that were non-functional. Their facilities were destroyed or incapacitated due to a combination of war-fighting, sabotage, looting, and long-term neglect, with no communications, and no equipment. Workers were fearful for their personal safety, and influence of the Ba'ath party, whose members had to be removed, reached deeper than we had anticipated. Even when provided a place to work, many members of these ministries were either unwilling or unable to return to these vital public service agencies. Soon after arrival, therefore, we quickly went to work assisting in the performance of initial, rudimentary repairs to their workplaces, providing a secure work environment, and offering our communications systems to assist them in the day-to-day operations of a country struggling to restore its society and culture and establish a new democracy. The advisors we assigned to these ministries provided both technical

expertise and assistance in setting up models of governance and public service that would work in a democracy, as opposed to the old models designed to support a totalitarian regime.

We knew from the beginning that identifying and engaging Iraqi's who had the expertise in Iraq's infrastructure would be critical. Due to the initial enormity of the tasks, even with the valiant efforts of the military units, we knew that this group of Iraqi specialists would be essential to the rapid restoration of basic services. Once again, however, we found the lack of a basic communications system, such as telephones, hindered this effort. All meetings had to be face-to-face. For example, we scheduled regular meetings with the Iraq Ministry of electricity. During one of these meetings, I was introduced to an expert in another utility area. I arranged a meeting at an appointed place and time, but I was unable to make the appointment due to security and transportation difficulties. Without a functioning phone system or any other means of communication, I had to wait until the next regularly scheduled meeting to arrange another appointment, and hope we would both be able to meet at the agreed upon time and place. Despite these challenges, we quickly identified essential Iraqi citizens who often "bridged-the-gap" between efforts of the military units and efforts of the contractors provided by ORHA and later, the CPA.

Soon after Coalition forces initially secured Baghdad, we established Task Force Fajr, which translates to "dawn" or "first light." Task Force Fajr consisted of approximately 20 people – mostly from the Corps of Engineers – led by Brigadier General Steve Hawkins, commander of our Great Lakes and Ohio River Division. The initial mission of Task Force Fajr was to initiate the restoration of power and potable water, first in Baghdad, then throughout Iraq, to assist in the hydrology and watershed management, and provide assistance in reestablishing hospitals in Baghdad.

One of the early challenges facing Task Force Fajr was potential flooding in the Tigris and Euphrates River basins. Rivers were rising and the Iraqis who understood and operated the system had fled. Employing "reach-back" techniques – Corps satellite video teleconferencing kits - we were able to place engineers on the ground at key reservoirs

and link them via satellite with technical experts in our Mobile District. The Mobile District used this and other information to construct a hydraulic model of the entire Euphrates and Tigris River Basins. The Mobile District then linked back to Task Force Fajr Engineers at key reservoirs, and working with local Iraqis used these reservoirs to regulate flow and avoid potentially catastrophic flooding.

In reestablishing a normal life for Iraqis, our first priority was to restore electrical power. Upon arrival in Baghdad, one of our first challenges was to find the "wiring diagram" for the national electrical grid. We soon discovered that the Saddam Hussein Regime restricted this information to very few loyal Ba'ath party members. In fact, electrical power was used as a tool of punishment and reward, with loyalists in the "Sunni Triangle" receiving ample power and the southern Shi'a and northern Kurds receiving little. Because of this strict, centralized control, few copies of the plans for the national grid existed and had been destroyed before we secured Baghdad. The first schematic of the entire Iraqi electrical grid was actually drawn by a lieutenant in the Corps of Engineers 249th Prime Power Battalion.

As we began to restore power, we found that the system was more like a string of old fashioned Christmas lights than a modern national power grid. When one key facility went out, the entire system failed. After years of operating as part of a totalitarian regime, power plants now fell under the control of local governments in their area. Having local government control pieces of the national power grid was not the most effective or efficient method for meeting the country's energy needs. Early on, for example, a number of power plants were forced by local governments to put power on the local grid and drop off the national grid. As a result, the remaining plants on the national grid were asked to provide more power than they had available to meet the national demand. The power plants still on the national grid were shut down to prevent overload, and soon, the entire grid shut down. Whenever this happened, we were forced to begin the laborious process of getting all of the stations back up and running, applying power back to the national grid. Accomplishing this, we might experience a failure at a different power plant due to lack of maintenance or damage from looting and sabotage.

Without an effective national communications network and with antiquated control systems, we were sometimes unable to react in time and were required to go through the entire process of shutting down and restarting all over again. Over time, we educated individual plant operators, negotiated operating schedules with local governments, provided military communications systems to assist in operations and control, and began providing reliable power across the country.

The combination of military units and local Iraqi people allowed us to restore and stabilize basic life support functions. As planned, we also began using contractors from numerous agencies, to include USAID and the Corps of Engineers to provide more long term, permanent solutions.

**EARLY CORPS OF ENGINEERS INVOLVEMENT**

To illustrate the use of contractor's in the reconstruction efforts, I will highlight two from the Corps of Engineers that assisted me in my role overseeing the reconstruction of a portion of the infrastructure. I must emphasize that these were only a few of the many contractors that provided essential life support, security, and construction services across Iraq.

To accomplish the mission of getting Iraq's oil production running again, we established Task Force RIO (Restore Iraqi Oil). In Central Command's planning for the Operation Iraqi Freedom, safety and security of the oil fields was considered paramount to the overall success of the operation. During the Gulf War, Saddam Hussein had demonstrated a callous disregard for human health and the environment, as he set the oil fields of Kuwait ablaze. Task Force RIO's immediate mission was to secure the oil fields, put out the fires, and get the oil flowing to provide refined fuel products for domestic use and ultimately oil for export. With more than 12,000 wells in the southern Iraq Oil Fields alone, the potential for disaster was enormous. We knew that this effort would require extensive contractor involvement and the short notice, requirements for secrecy, and essential nature of the mission limited our contracting flexibility.

Task Force RIO operated in two main areas – Rumaila and Kirkuk. The Task Force achieved tremendous early success. There were fewer than 10 significant fires, which we fought in a cooperative effort with Kuwaitis. What we did encounter was extensive damage caused as looters stole various components of the system. Terrorists and saboteurs continually targeted the oil pipelines that cross Iraq. They recognized that disrupting the flow of crude oil and refined petroleum products could delay efforts to restore peace. Before the war, we estimated it would take 12 weeks to reopen the fields. Due in large part to the hard work of Task Force RIO, its contractors, and especially the Iraqi experts in oil production, however, it took only about three weeks to get the oil flowing again. Despite the fact that terrorist attacks against the infrastructure continue today, Iraq is now producing about 2.5 million barrels per day of crude oil and is ahead of schedule in restoring production to pre-war levels. Additionally, Iraq is now exporting more than 1.5 million barrels of oil per day. These exports are pumping much needed funds back into the Iraqi economy, much of which is being used to restore infrastructure.

After initial restoration and stabilization efforts, electricity production leveled off during the late summer at a peak production capability of approximately 3,000 mega-Watts. By this time, responsibility for reconstruction had transitioned to the Program Management Office (PMO) of the CPA The PMO had the lead and was working an excellent plan using USAID and its contractor, Bechtel, to provide large scale generating, transmission, and control projects. What was needed though was an immediate, short-term solution that would give a much-needed boost to the availability of electricity across Iraq.

In September, the Corps of Engineers was asked by Central Command to look at the electrical situation in Iraq again and see if there was anything we could do to provide immediate assistance in order to allow USAID to focus on more long-term solutions. We did this with Task Force RIE (Restore Iraqi Electricity). Using our well-honed domestic emergency management skills, within two weeks we had a team of more than 30 Corps of Engineers employees in Iraq working under the leadership of the PMO. Working closely with the PMO and Iraqi Ministry of Electricity, Task Force RIE initially was assigned 26

projects that included new generation, generator rehabilitation, and restoring transmission lines and control systems. Just as we do in domestic emergency management situations such as recovery from Hurricane Isabel, we used existing, competitively bid contracts to accomplish this work. At the peak of activity, more than 2,000 contractors were on the Task Force RIE team. The initial efforts of Task Force RIE placed more than 500 mega-Watts of power back onto the Iraq electrical grids, but more importantly, helped ensure the reliable distribution of that power.

**CONCLUSION**

From the beginning of planning through current efforts, we have recognized the enormity of the tasks facing us required extensive contractor involvement on the Corps and Coalition teams. This need was not unique to either our prior wartime experience or our day-to-day operations at home and abroad. The contractors involved in the reconstruction effort brought extraordinary technical expertise, dedication and commitment to the team. I believe we would not have enjoyed the success we experienced without their contributions.

I am intensely proud that I had the opportunity to work alongside the extraordinary professionals in the US, Coalition and new Iraqi government. Thank you for allowing me to spend time with you today, and once the other members of this panel have made their statements I will be happy to take your questions